

RESPONSE UNDER 37 C.F.R. § 1.116

EXPEDITED PROCEDURE – Art Unit 2829

Attorney Docket No. 108298554US2

Disclosure No. MUEI-0298.02/US

REMARKS

Claims 17-41 are currently pending in this application. Claims 17-31 were previously withdrawn. In the Office Action mailed June 8, 2006, claims 32-41 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,782,291 to Blandin ("Blandin").

A. Response to Section 102 Rejection

Claim 32 was rejected under 35 U.S.C. § 102(b) as being anticipated by Blandin. As described below, the rejection of claim 32 should be withdrawn because Blandin does not disclose or suggest all of the features of this claim.

(1) Claim 32 is Directed to a Method of Making a Testing Device That Includes Configuring at Least One Pin Receptacle to be Operatively Couplable to at Least One Second Contact and to Receive Pins of an Electrical Socket Device

Claim 32 is directed toward a method of making a testing device that includes coupling a load board to a base member. The method can further include removably coupling multiple electrically conductive first contacts to the base member. The first contacts can have first portions that are thereby operatively coupled to the load board and second portions that are operatively couplable to multiple second contacts. The method can still further include operatively coupling the second contacts to the second portions of the first contacts. The method can yet further include configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device.

(2) Blandin Discloses a Unit for Testing Electrical Components in a Sub-Zero Environment

Blandin discloses a unit for testing electrical components in a sub-zero environment (Abstract). The unit includes an isothermal chamber 60 provided with a first socket 80 on a DUT card 81, which is removable from a DUT fixture at the bottom of the chamber 60 (9:15-18). The DUT card 81 is a printed circuit board that has a circumferential set of contacts 83 on the top and bottom surfaces of the card so that vertically corresponding contacts are electrically connected through holes or vias (9:18-23). The first socket 80 is mounted in a first lead frame 85 and connected to the top of the contacts 83 via the first lead frame 85 (9:23-24). The first socket

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80 and the DUT card 81 are the only pieces of equipment in the chamber that need to be changed out to test different electronic devices (9:24-27; 10:31-33; 11:5-10).

The DUT fixture 110 is a printed circuit board that has a set of pins 111 that contact the contacts 83 on the underside of the DUT card 81 through "thru holes" or "vias" when the DUT card 81 is secured to the DUT fixture using screws 84 (9:15-24; 10:2-8). The DUT Fixture 110, located inside the chamber 60, is connected via wires 112 to vertically oriented cards 106 that are carried on a base card 108 on the bottom exterior of the chamber 60 (10:8-21; Figure 5). The vertical cards 106 can be inserted into an aperture 118 of a second socket 105 of a removable test head 102, electrically connecting the vertical cards 106 to the test head 102 (10:15-35). The removable test head 102 includes a local load board 103 on which the second socket 105 is mounted (9:64-66; 10:16-35; 11:11-23; Figure 5). More specifically, the second socket 105 is mounted in a second lead frame 113 and the second lead frame 113 is connected to contacts 118 on the outside perimeter of a local load board 103 (9:64-66; 10:16-35; 11:11-23; Figure 5). The contacts on the local load board 103 are connected to a cable 140 that allows the test head 102 to be connected to a conventional test unit (11:24-28).

The removable test head 102 can be pressed onto, and removed from, the bottom of the chamber 60 (10:15-35). The test head 102 has locator pins 130 that are used to position the test head 102 relative to the vertical cards 106 on the chamber 60 when the test head is pressed onto the bottom of the chamber 60 (11:11-23). The locating pins 130 include grooves 132 that serve as detents to hold the test head 102 in place (11:11-23). The arrangement in Blandin allows the first socket 80 and the DUT card 81 to remain inside the chamber at a selected temperature and the test head 102 to remain outside of the chamber 60 (10:51-60). Components inside the isothermal chamber 60 can be manipulated using arm holes 70 and gloves 72, allowing multiple devices to be tested while maintaining the chamber 60 at a constant temperature (8:56-9:9). The chamber 60 includes shelves for storing various components before and after testing (8:56-9:9). Accordingly, Blandin does not teach or suggest configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device.

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(3) Blandin Fails to Disclose, Among Other Features, Configuring at Least One Pin Receptacle to be Operatively Couplable to At Least One of the Second Contacts and to Receive Pins of an Electrical Socket Device

Blandin fails to teach or suggest the combination of elements set forth in claim 32. For example, Blandin does not teach or suggest configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device. In Blandin, the first socket 80 is coupled to the contacts 83 on the DUT card 81 via a lead frame 85. Pins 111 of a DUT fixture 110 are configured to contact the contacts 83 through thru holes or vias. The pins 111 are also connected via wires to the vertical card 106, which are characterized as second contacts in the Office Action. Additionally, neither the first socket 80 nor the DUT card 81 is configured with a pin that is receivable by a pin receptacle. Accordingly, Blandin does not teach or suggest configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device.

In the above referenced Office Action, the pins 111 are characterized as "pin receptacles . . . operatively coupled to second contacts (106 and 107)." Additionally, the Office Action maintains that the "pin receptacles (111) were identified to be received by pins (83) wherein pins (83) are vias in card (81); vias are 'pins' positioned between opposite sides of card (81)." As discussed above, the pins 111 in Blandin are pins, not pin receptacles. If, as the Office Action suggests, the terms "pin" and "pin receptacle" are the same apparatus, there would be no need to have these separate terms and/or no way to differentiate between these two pieces of apparatus. Furthermore, the contacts 83 in Blandin are contacts that the pins 111 contact through "thru holes" or "vias" when the DUT card 81 is secured to the DUT fixture; the contacts 83 are not pins. Even if for the sake of argument, the through holes or vias in Blandin through which the pins 111 extend to contact the contacts 83 could be considered pins, the pins 111 are not configured to receive pins. Accordingly, Blandin does not teach or suggest configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device.

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The Examiner has not pointed to any portion of Blandin that supports characterizing the pins 111 in Blandin as pin receptacles. Additionally, the Examiner has not pointed to any portion of Blandin that supports characterizing the contacts 83 configured to be contacted by the pins 111 in Blandin as pins. Accordingly, the undersigned respectfully requests that the Examiner withdraw the rejection based on these characterizations or provide support for these characterizations.

Furthermore, there is no motivation to modify Blandin to include configuring at least one pin receptacle to be operatively couplable to at least one of the second contacts and to receive pins of an electrical socket device. The first socket 80 and/or DUT card 81 in Blandin are intended to be removed and replaced for testing various electronic devices. In Blandin, if the contacts 83 or lead frame 113 were replaced with pins and the Blandin pins 111 on the DUT fixture 110 were replaced with pin receptacles, the pins replacing the contacts 83 or lead frame 113 could be easily damaged during storage (especially when they are stored on shelves inside the chamber along with various devices to be tested) and/or when they are manipulated using the arm holes and gloves of the isothermal chamber. Conversely, the pins 111 on the DUT fixture in Blandin can generally be protected because the pins on the DUT fixture can generally remain covered by a DUT card during periods of testing and during periods of inactivity. Accordingly, one skilled in the art would not be motivated to modify Blandin to replace the contacts 83 and associated thru holes or vias with pins and to replace the pins 111 on the DUT fixture 110 with one or more pin receptacles.

For at least these reasons claim 32 is patentable over Blandin. Claims 33-36 depend from claim 32 and, for at least this reason claims 33-36 are also patentable over Blandin. Claim 37 contains features generally similar to those of claim 32, and for at least this reason claim 37 is also patentable over Blandin. Claims 38-41 depend from claim 37, and for at least this reason, they too are patentable over Blandin.

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(4) Claims 35 and 40 are Patentable Over Blandin for At Least the Additional Reason That They Include Operatively Coupling the at Least One Pin Receptacle to the at Least One of the Second Contacts

Blandin does not teach or suggest operatively coupling the at least one pin receptacle to the at least one of the second contacts, wherein the pin receptacle is configured to receive pins of an electrical socket device, as recited in claims 35 and 40. As discussed above, in Blandin the first socket is coupled to the DUT card via a lead frame. The DUT card is configured to receive pins that are connected via wires to the vertical card, which the present Office Action characterizes as second contacts. Neither the first socket nor the DUT card is configured with a pin that is receivable by a pin receptacle. Accordingly, Blandin does not teach or suggest operatively coupling the at least one pin receptacle to the at least one of the second contacts, wherein the pin receptacle is configured to receive pins of an electrical socket device. Therefore, for at least this additional reason, claims 35 and 40 are in condition for allowance.

(5) Claims 36 and 41 are Patentable Over Blandin for At Least the Additional Reason That They Include Coupling the Pins of the Electrical Socket Device to the At Least One Pin Receptacle

Blandin does not teach or suggest coupling the pins of the electrical socket device to the at least one pin receptacle, as recited in claims 36 and 41. As discussed above, in Blandin the first socket is coupled to the DUT card via a lead frame. The DUT card is configured to receive pins that are connected via wires to the vertical card, which the present Office Action characterizes as second contacts. Additionally, neither the first socket nor the DUT card is configured with a pin that is receivable by a pin receptacle. Accordingly, Blandin does not teach or suggest coupling the pins of the electrical socket device to the at least one pin receptacle. Therefore, for at least this additional reason, claims 36 and 41 are in condition for allowance.

In view of the foregoing, the pending claims comply with 35 U.S.C. § 112 and are patentable over the applied art. The applicant accordingly requests reconsideration of the application and a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-6477.

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The Commissioner is hereby authorized and requested to charge any deficiency in fees herein to Deposit Account No. 50-0665.

Respectfully submitted,

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